REMARKS

The Applicants have carefully considered the office action of August 3, 2009. By way of this Response, claims 1, 5, 9, 13, 17, 21, 25 and 29 have been amended. Claims 6, 14, 22, 30 and 38 were canceled in a prior response. Claims 1-5, 7-13, 15-21, 23-29, 31-37 and 39-42 are pending, of which claims 1, 9, 17, 25, 37 and 40 are independent. The Applicants respectfully submit that all claims are fully supported and that no new matter has been added. In view of the foregoing amendments and the following remarks, the Applicants respectfully request reconsideration of this application.

The Rejections under 35 U.S.C. §112, Second Paragraph

The official action rejected claims 5, 13, 21, 29 and 40-42 under 35 U.S.C. §112, second paragraph as allegedly indefinite.

By way of this response, claims 5, 13, 21 and 29 have been amended to recite "up and down shifting between levels of the base precision and the substitute precision." The Applicants respectfully submit that the foregoing amendments reflect proper antecedent basis based on corresponding independent claims.

Additionally, claim 40 has been amended to remove the language "relative similarity to the base level variable." Accordingly, any issues related to clarity that may have existed have been abated.

Thus, for at least the foregoing reasons, the Applicants respectfully submit that the rejections under 35 U.S.C. §112, second paragraph, be withdrawn.

The Rejections under 35 U.S.C. §101

Claims 37, 39 and 40-42 were rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. The official action dated August 3, 2009 states that, for a method to be considered a "process" under 35 U.S.C. §101 (i.e., for a method to be statutory), it must be tied to a particular machine or transform a particular article to a different state or thing. *See official action*, page 3, item 7. Claims 37, 39 and 40-42 are method claims and the Applicants respectfully submit that such claims are tied to particular machines. In particular, independent claims 37 and 40 are tied to a computer system to perform the claimed procedures.

The official action argues that reciting a computer system is considered a nominal tie and insignificant extra solution activity that does not satisfy the (§101) requirement. However, the most recent examination guidelines issued by the USPTO provide an example claim that is similar in nature to the Applicants claims, in which a method is statutory when one step is tied to a microprocessor. *See "Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. §101,"* hereinafter *"Interim Instructions,"* page 15, August 2009, http://www.uspto.gov/web/offices/pac/dapp/opla/2009-08-25_interim_101_instructions.pdf.

Much like the example claim provided by the Interim Instructions, independent claims 37 and 40 also recite, in part, a computer system, which is analogous to the microprocessor recited in claim 5 of the Interim Instructions and found to be eligible subject matter. Further, under the broadest reasonable interpretation (BRI) of claim 5, the microprocessor is not referred to as insignificant extra solution activity. Instead, the microprocessor is programmed in a particular manner to perform the claimed activity. In much the same way, the computer system of independent claims 37 and 40 is not insignificant extra solution activity, but is programmed in a particular manner to perform the processes of claims 37 and 40.

For at least these reasons, the Applicants respectfully request that the rejections under 35 U.S.C. §101 be withdrawn for claims 37 and 40, and all claims dependent thereon.

The Rejections Under 35 U.S.C. §103(a)

In the office action, claim 1 was rejected as being unpatentable over Miller et al. (U.S. Patent Application No. 2002/0184077 A1, hereinafter "Miller") in view of Christiansen et al. (U.S. Patent No. 6,202,053, hereinafter "Christiansen"). The Applicants respectfully traverse this rejection.

Claim 1

Independent claim 1 recites, *inter alia*, a base level segmentation tree associated with a base level data set having a base precision, an alternative level data set to create a substitute level tree having a substitute precision different from the base precision, and the substitute level tree to enable up and down shifting between levels of the base precision and the substitute precision.

As explained below, neither of Miller nor Christiansen teaches or suggests a base level segmentation tree associated with a base level data set having a base precision, an alternative level data set to create a substitute level tree having a substitute precision different from the base precision, and the substitute level tree to enable up and down shifting between levels of the base precision and the substitute precision. Thus, no combination of these references can result in such a recitation.

The instant office action admits that Miller does not disclose a substitute level tree having a substitute precision different from the base precision and proffers Christiansen in an effort to cure this admitted deficiency. *Office action*, page 5, second paragraph.

Generally speaking, Christiansen describes a method to segment a given population based on specific factors related to credit. *Christiansen*, 2:63 through 3:4. The credit related factors include a length of credit history and/or credit delinquency, all of which may be used in a tree structure. *Christiansen*, 3:12-22, 3:23-41, and FIG. 1. As divisions of the tree occur, sub-populations (segments) result that either match the deciding factor or do not match the deciding factor. *Christiansen*, 5:46-52. Based on each segment, Christiansen develops custom scorecards for credit applicants, which is useful for financial institutions. *Christiansen*, 5:34-45. The financial institutions use the custom scorecards to identify applicant credit risks in corresponding segments. *Christiansen*, 1:64 through 2:5.

The instant office action contends that Christiansen describes a substitute precision different from a base precision in FIG. 4, and up and down shifting between levels of the base precision and the substitute precision in 4:17-24. However, the Applicants respectfully submit that Christiansen as a whole, much less the cited portions of Christiansen, fails to teach or suggest a substitute level tree having a substitute precision different from a base precision, the substitute level tree to enable up and down shifting between levels of the base precision and the substitute precision.

In particular, Christiansen describes that FIG. 4 includes eight segmentation groups in which each segment is based on four pieces of credit history information (e.g., thin/thick credit files, delinquencies, etc.). *Christiansen*, 3:5-22. While Christiansen describes different segments of a total population in a tree format, Christiansen is silent to any circumstances related to the precision of such trees. Instead, the official action appears to confuse a change in precision of a segment tree from one segment to the next (e.g., propagating down a segmentation tree to identify sub-populations of different precision) with a precision of the

segmentation tree itself. In other words, while merely propagating from one segment to another segment does illustrate subsequent segments within the tree of different precision, such segment tree propagation is not indicative of a precision level of the whole segmentation tree, much less a base level segmentation tree associated with a base level data set having a base precision.

In other words, Christiansen is silent to a degree of precision for the whole segmentation tree itself, much less distinguishing between more than one segmentation tree based on the precision of each segmentation tree. Generally speaking, the precision of a segmentation tree is based on the data to be segmented. In the event that some data is very detailed (e.g., household level data), then the segmentation tree generated from that data has a corresponding high precision. However, in the event that separate data having less precision (e.g., data associated with zip code precision) is used to create a separate segmentation tree, then that whole separate tree has a corresponding lower precision. Furthermore, Christiansen is silent to any circumstance in which more than one data set, each of which having varying degrees of precision, is used to generate a segmentation tree and/or up and down shifting between levels of precision. Christiansen fails to address any concept related to more than one segmentation tree or the overall precision of each segmentation tree, and none of the segmentation trees described by Christiansen are derived from data that has varying degrees of precision. In fact, Christiansen describes an analysis that begins with all applicants rather than applicants of more than one data set, each of which having a varying degree of precision.

Unlike a substitute level tree having a substitute precision different from the base precision, the segmentation tree 14 described by Christiansen originates from all applicants who request bank cards and are grouped into a total population. *Christiansen*, 2:62 through 3:4. In fact, although Christiansen describes breaking down the population into segments (e.g., a sub-population that has a thin credit file, a sub-population having low bank card utilization, etc.), Christiansen is silent to any circumstances related to a precision of the tree from which the segments are created, much less creating a substitute level tree having a substitute precision different from the base precision.

As such, because Christiansen is devoid of any concept related to a precision of a segmentation tree, much less the possibility that segmentation trees may have different degrees of precision in view of other segmentation trees, Christiansen cannot be employed as a reference to establish a *prima facie* case of obviousness. In fact, Christiansen explicitly

applies all of the applicants in a grouping of a total population for the segmentation tree. *Christiansen*, 2:63 through 3:4. Additionally, Christiansen explicitly identifies that the total population (12) includes 100 percent of the representative sample from which each segment represents a portion of that sample. *Christiansen*, 4:36-42. Accordingly, any segments derived from the segmentation tree described by Christiansen are necessarily the result of the same representative sample. Even if Christiansen were to be construed as employing a segmentation tree having a base precision, an assertion to which the Applicants do not agree but merely state for purposes of explanation, Christiansen is still silent to a substitute level tree having a substitute precision different from the base precision, as recited in claim 1.

Furthermore, because Christiansen is devoid of any concept related to segmentation trees having a precision, much less creating a substitute level tree having a substitute precision different from the base precision, Christiansen necessarily fails to teach or suggest up and down shifting between levels of the base precision and the substitute precision. The instant office action appears to contend that Christiansen describes up and down shifting between levels of the base precision and the substitute precision at 4:17-24 of Christiansen. However, this section of Christiansen merely describes scorecards for each of the segments defined by the segmentation tree in an effort to indicate whether an account is likely to become bad. In other words, unlike up and down shifting between levels of trees having varying degrees of precision, Christiansen merely describes that there are eight (8) segments in the segmentation tree (14) shown in FIGS. 1 and 2. Additionally, because Christiansen describes only a single segmentation tree (14) that was derived from all of the applicants who request bank cards rather than a segmentation tree associated with a base level data set and an alternative level data set to create a substitute level tree, Christiansen necessarily fails to describe any concept related to up and down shifting between levels of the base precision and the substitute precision. Furthermore, FIG. 4 of Christiansen illustrates a scorecard for each of the eight (8) segments resulting from the single data source and provides factored odds related thereto (see *Christiansen*, 5:25-34), but in no event does Christiansen describe or suggest any circumstance related to a precision of the segmentation tree itself, much less teach or suggest up and down shifting between levels of the base precision and the substitute precision.

Accordingly, at least because Christiansen fails to teach or suggest a substitute level tree having a substitute precision different from a base precision, the substitute level tree to

enable up and down shifting between levels of the base precision and the substitute precision, no combination of Christiansen and Miller can result in the recited subject matter. For at least the reasons discussed above, the Applicants maintain that Miller and Christiansen are references that, either alone or in combination, cannot render the claimed subject matter obvious. Reconsideration is respectfully requested.

Claims 9, 17 and 25

The Applicants also submit that independent claims 9, 17 and 25 are allowable over the art of record for reasons similar to those set forth above in connection with independent claim 1. In particular, independent claim 9 relates to a system for segmenting a population and recites, in part, means for defining a base level population segmentation tree having a base level data set with a base precision, and an alternative level data set to create a substitute level tree having a substitute precision different from the base precision. The Applicants respectfully submit that the cited art fails to teach or suggest means for defining a base level population segmentation tree having a base level data set with a base precision, and an alternative level data set to create a substitute level tree having a substitute precision different from the base precision, as recited in claim 9.

Independent claim 17 relates to a software system to execute on a computer system for segmenting a population and recites, in part, a base level population segmentation tree associated with a base level data set having a base precision, an alternative level data set to create a substitute level tree having a substitute precision different from the base precision, and enabling up and down shifting between levels of the base precision and the substitute precision. The Applicants respectfully submit that the cited art fails to teach or suggest a base level population segmentation tree associated with a base level data set having a base precision, an alternative level data set to create a substitute level tree having a substitute precision different from the base precision, and enabling up and down shifting between levels of the base precision and the substitute precision, as recited in claim 17.

Independent claim 25 relates to a machine accessible medium having instructions stored thereon and recites, in part, defining a base level population segmentation tree associated with a base level data set having a base precision, an alternative level data set to create a substitute level tree having a substitute precision, and enabling up and down shifting between levels of the base precision and the substitute precision. The Applicants respectfully

submit that the cited art fails to teach or suggest defining a base level population segmentation tree associated with a base level data set having a base precision, an alternative level data set to create a substitute level tree having a substitute precision, and enabling up and down shifting between levels of the base precision and the substitute precision, as recited in claim 25.

Claim 37

In the office action, claim 37 was rejected as being unpatentable over Miller in view of Christiansen. The Applicants respectfully traverse this rejection. Independent claim 37 recites, *inter alia*, a base level data set having a first precision, and an alternate data set having a second precision different from the first precision of the base level data set.

As explained below, neither of Miller nor Christiansen teaches or suggests a base level data set having a first precision, and an alternate data set having a second precision different from the first precision of the base level data set. Thus, no combination of these references can result in such a recitation.

As discussed above, merely propagating through a segmentation tree to identify subsequent segments of an initial population that have a differing degree of precision is not indicative of a precision of the segmentation tree itself or indicative of a degree of precision from which the segmentation tree was created. The instant office action admits that Miller does not disclose a substitute level tree having a substitute precision different from the base precision and proffers Christiansen in an effort to cure this admitted deficiency. *Office action*, page 5, second paragraph. However, while Christiansen describes that all of the applicants who request bank cards are grouped into a total population, which is broken down into segments using a segmentation tree (see *Christiansen*, 2:63-65), such applicants are not defined as having any precision, much less that all of the applicants are a base level data set having a first precision. For example, Christiansen is silent to whether the applicant data has a household level precision, a zip code level precision, etc. Further, Christiansen is silent to multiple segmentation trees, each of which created in view of data sets having varying degrees of precision. In fact, unlike an alternate data set having a second precision different from the first precision, Christiansen specifically defines the total population (12) including 100 percent of the representative sample, from which sub-populations are identified as one of eight separate segments. *Christiansen*, 4:36-61. As a result, any of the segments of card

applicants are derived from the representative sample described by Christiansen rather than an alternate data set, to which Christiansen is silent.

Even if the representative sample described by Christiansen were to be construed as a base level set having a first precision, Christiansen still fails to teach or suggest an alternate data set. Moreover, absent any alternate data set described by Christiansen, Christiansen necessarily fails to teach or suggest one having a second precision different from the first precision of the base level data set, as recited in claim 37.

Accordingly, at least because Christiansen fails to teach or suggest a base level data set having a first precision, and an alternate data set having a second precision different from the first precision of the base level data set, no combination of Christiansen and Miller can result in the recited subject matter. For at least the reasons discussed above, the Applicants maintain that Miller and Christiansen are references that, either alone or in combination, cannot render the claimed subject matter obvious. Reconsideration is respectfully requested.

Claim 40

The Applicants also submit that independent claim 40 is allowable over the art of record for reasons similar to those set forth above in connection with independent claim 37. In particular, independent claim 40 recites, in part, a method to segment a population including receiving a base level data set having a first precision, and receiving an alternate level data set having a second precision. The Applicants respectfully submit that the cited art fails to teach or suggest receiving a base level data set having a first precision, and receiving an alternate level data set having a second precision, as recited in claim 40.

For at least the foregoing reasons, independent claim 1, 9, 17, 25, 37 and 40, and claims dependent therefrom, are allowable over the cited art.

Conclusion

Reconsideration of the application and allowance thereof are respectfully requested. In the event that the Examiner would like to discuss the aforementioned claims, or any other matter, the Examiner is invited to contact the undersigned representative at the telephone number set forth below.

Generally speaking, the office action makes various statements regarding the pending claims and the cited references that are now moot in light of the above Remarks. Thus, the Applicants will not address such statements at the present time. However, the Applicants expressly reserve the right to challenge such statements in the future should the need arise (e.g., if such statement should become relevant by appearing in a rejection of any current or future claim).

The Commissioner is hereby authorized to refund any overpayment and charge any deficiency in the amount provided or any additional fees which may be required during the pendency of this application under 37 C.F.R. §1.16 or 1.17 to Deposit Account No. 50-2455.

Respectfully submitted,

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